

Title (en)
Driving unit and battery-assisted bicycle

Title (de)
Antriebseinheit und batterieunterstütztes Fahrrad

Title (fr)
Bicyclette assistée d'une batterie et unité d'entraînement

Publication
EP 2743164 B1 20200205 (EN)

Application
EP 13196776 A 20131212

Priority
JP 2012272966 A 20121214

Abstract (en)
[origin: EP2743164A1] A driving unit and a battery-assisted bicycle capable of accurately detecting a failure in each of a torque detector, a crank rotation detector, and a motor rotation detector is provided. The driving unit 40 includes a crankshaft 41 to which pedals 33 and 34 are to be connected, a motor rotation detector 68 that detects rotation of an electric motor 61, a torque detector 57 that detects a torque generated at the crankshaft 41, a crank rotation detector 58 that detects rotation of the crankshaft 41, and a sensor failure detector 106 that detects a failure in at least one of the motor rotation detector 68, the torque detector 57, and the crank rotation detector 58 based on detection results from the motor rotation detector 68, the torque detector 57, and the crank rotation detector 58.

IPC 8 full level
B62M 6/45 (2010.01); **B62M 6/50** (2010.01)

CPC (source: EP US)
B62M 6/45 (2013.01 - EP US); **B62M 6/50** (2013.01 - EP US); **B62M 6/40** (2013.01 - US); **B62M 6/55** (2013.01 - EP US)

Citation (examination)
US 5798702 A 19980825 - OKAMOTO YUICHI [JP], et al

Cited by
DE102014212760A1; CN112498561A; WO2022033901A1; EP2743167B1

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)
EP 2743164 A1 20140618; EP 2743164 B1 20200205; CA 2836456 A1 20140614; CA 2836456 C 20170214; CN 103863124 A 20140618; CN 103863124 B 20160217; JP 2014133552 A 20140724; JP 6228442 B2 20171108; US 2014166383 A1 20140619; US 9327801 B2 20160503

DOCDB simple family (application)
EP 13196776 A 20131212; CA 2836456 A 20131212; CN 201310690048 A 20131216; JP 2013252303 A 20131205; US 201314102790 A 20131211